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4. (Amended) The production method according to Claim 1,
wherein the main chain of the macromonomer (I) comprises a vinyl polymer obtained by
living radical polymerization.

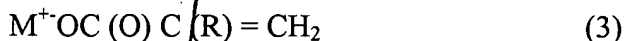
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9. (Amended) The production method according to Claim 1,
wherein the main chain of the macromonomer (I) comprises a vinyl polymer obtained by
polymerization of a vinyl monomer using a chain transfer agent.

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13. (Amended) The production method according to Claim 1,
wherein the macromonomer (I) is obtained by substituting a compound having a radical-
polymerizable carbon-carbon double bond for a terminal halogen group of a vinyl polymer.

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14. (Amended) The production method according to Claim 13,
wherein the macromonomer (I) is obtained by reacting a vinyl polymer having a terminal
halogen group represented by the general formula (2) :



wherein R^1 and R^2 each represents a group attached to an ethylenically unsaturated group
of a vinyl monomer and X represents a chlorine, bromine or iodine atom, with a compound
represented by the general formula (3) :



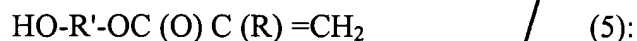
wherein R represents a hydrogen atom or a monovalent organic group containing 1 to 20
carbon atoms and M^+ represents an alkali metal or a quaternary ammonium ion,
for substitution for the terminal halogen group.

15. (Amended) The production method according to Claim 1,
wherein the macromonomer (I) is obtained by reacting a hydroxy-terminated vinyl
polymer with a compound represented by the general formula (4):



wherein R represents a hydrogen atom or a monovalent organic group containing 1 to 20 carbon atoms and X represents a chlorine, bromine atom or a hydroxyl group.

16. (Amended) The production method according to Claim 1,
wherein the macromonomer (I) is obtained by reacting a hydroxy-terminated vinyl polymer with a diisocyanate compound and reacting the remaining isocyanato group with a compound represented by the general formula (5):



wherein R represents a hydrogen atom or a monovalent organic group containing 1 to 20 carbon atoms and R' represents a divalent organic group containing 2 to 20 carbon atoms.

20. (Amended) A production method of a branched polymer which comprises polymerizing a macromonomer (I),
said macromonomer (I) being a vinyl polymer obtained by radical polymerization and terminally having one polymerizable carbon-carbon double bond-containing group per molecule,
wherein polymerization of the macromonomer (I) is conducted in the manner of living radical polymerization.

29. (Amended) The production method according to Claim 1,
wherein the copolymerization of the macromonomer (I) with a copolymerizable monomer (II) other than said macromonomer (I) gives a graft copolymer.

33. (Amended) A branched polymer obtained by the production method according to Claim 1.